

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-9 (Cancelled).

Claim 10 (Previously presented): A process for obtaining crude 1,3-butadiene comprising:

extractively distilling with a selective solvent the crude 1,3-butadiene in a dividing wall column from a C₄ cut comprising C₄ acetylenes as secondary components;

controlling the energy input into the dividing wall column to obtain a bottom stream comprising solvent, C₄ acetylenes and an economically acceptable proportion of 1,3-butadiene which is drawn off from the dividing wall column;

feeding the bottom stream to an acetylenes outgasser;

wherein the C₄ acetylenes are stripped out overhead and purified solvent is obtained as a bottom stream;

wherein

the dividing wall column comprises a bottom evaporator,

a dividing wall is disposed in the longitudinal direction of the dividing wall column to form a first subregion, a second subregion and a lower combined column region having one or more separation stages, and

the dividing wall column is disposed upstream of an extractive wash column.

Claim 11 (Previously presented): The process according to claim 10, wherein the economically acceptable proportion of 1,3-butadiene in the bottom stream of the dividing wall column is in a range of from 0.1 to 2 times the proportion of C₄ acetylenes in the bottom stream of the dividing wall column.

Claim 12 (Previously presented): The process according to claim 11, wherein the economically acceptable proportion of 1,3-butadiene in the bottom stream of the dividing wall column is 0.3 times the proportion of C₄ acetylenes in the bottom stream of the dividing wall column.

Claim 13 (Previously presented): The process according to claim 10, further comprising:

utilizing energy of the bottom stream of the dividing wall column for indirect heat exchange with the bottom stream of the acetylenes outgasser and/or with liquid which is drawn off from the one or more separation stages in the lower combined column region of the dividing wall column, and

selecting the one or more separation stages from which the liquid is drawn off to minimize the energy demand for the dividing wall column.

Claim 14 (Previously presented): The process according to claim 10, further comprising:

utilizing a heat content of the bottom stream of the acetylenes outgasser for indirect heat exchange with the liquid which is drawn off from one or more separation stages in the lower combined column region of the dividing wall column, and

determining the separation stage(s) from which the liquid is drawn off to minimize the energy demand for the dividing wall column, and/or

utilizing the heat content of the bottom stream for indirect heat exchange with a C₄ cut to be separated and fed to the dividing wall column.

Claim 15 (Cancelled).

Claim 16 (Previously presented): The process according to claim 10, wherein
the C₄ cut is fed to the first subregion of the dividing wall column,
the top stream from the first subregion of the dividing wall column is fed to a lower
region of the extractive wash column,
in the extractive wash column, a countercurrent extraction is carried out by charging
with a first substream of the selective solvent in the upper region of the extractive wash
column,
the components of the C₄ cuts having lower solubility than 1,3-butadiene in the
selective solvent are drawn off via the top of the extractive wash column,
the bottom stream from the extractive wash column is recycled into the upper region
of the first subregion of the dividing wall column,
second substream of the selective solvent is fed to the dividing wall column in the
upper region of the second subregion,
the top product from the second subregion of the dividing wall column is drawn off as
crude 1,3-butadiene and
a bottom stream comprising solvent, the C₄ acetylenes, and an economically
acceptable proportion of 1,3-butadiene, is drawn off from the lower combined column region
of the dividing wall column,
the bottom stream is fed to the acetylenes outgasser in which the C₄ acetylenes are
stripped out overhead and purified solvent obtained as the bottom stream is recycled into the
process.

Claim 17 (Previously presented): The process according to claim 10, wherein a temperature in the bottom evaporator of the dividing wall column is in the range from 50 to 210°C,

a top pressure of the second subregion of the dividing wall column is in the range from 1 to 10 bar absolute and

a top pressure in the acetylenes outgasser is in the range from 1 bar absolute to a maximum of the bottom pressure in the dividing wall column.

Claim 18 (Previously presented): The process according to claim 10, wherein the acetylenes outgasser is integrated by construction into the lower combined column region by configuring the number of theoretical plates in the lower combined column region to a correspondingly larger value and incorporating a gas-tight division in the dividing wall column at a point which corresponds to the upper end of the acetylenes outgasser integrated into the lower combined column region.

Claim 19 (Previously presented): The process according to claim 17, wherein the temperature in the bottom evaporator of the dividing wall column is 178°C, and the top pressure of the second subregion of the dividing wall column is in the range from 2 to 5 bar absolute.

Claim 20 (Previously presented): The process according to claim 19, wherein the top pressure of the second subregion of the dividing wall column is 3.5 bar absolute.

Claim 21 (Previously presented): The process according to claim 16, wherein the C₄ cut is fed into the middle region of the first subregion of the dividing wall column.